DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: FLAT MOUNTAIN POND (1&2)	Lake Area (ha): 15.	66
Town: WATERVILLE	Maximum depth (m): 5.5	
County: Grafton	Mean depth (m): 1.3	
River Basin: Saco	Volume (m^3) : 198500)
Latitude: 43°55'01" N	Relative depth: 1.2	
Longitude: 71°27'00" W	Shore configuration: 1.92	_
Elevation (ft): 2311	Areal water load (m/yr): 19.97	7
Shore length (m): 2700	Flushing rate (yr^{-1}) : 15.80)
Watershed area (ha): 474.0	P retention coeff.: 0.48	3
<pre>% watershed ponded: 0.3</pre>	Lake type: natural w/dam	n

BIOLOGICAL:		22 February 1995	26 July 1994
DOM. PHYTOPLANKTON (% TOTAL) #	#1	DINOBRYON 80%	DINOBRYON 80%
#	‡2	(ALL ALGAE SPARSE)	
#	#3		
PHYTOPLANKTON ABUNDANCE (units/mL	۲)		
CHLOROPHYLL-A (µg/L)			5.78
DOM. ZOOPLANKTON (% TOTAL)	#1	SPARSE - NO DOMINANT	KERATELLA 46%
#	‡2		POLYARTHRA 29%
#	#3		NAUPLIUS LARVA 20%
ROTIFERS/LITER		. 36	621
MICROCRUSTACEA/LITER		<1	207
ZOOPLANKTON ABUNDANCE (#/L)		36	828
VASCULAR PLANT ABUNDANCE			Common
SECCHI DISK TRANSPARENCY (m)			2.5
BOTTOM DISSOLVED OXYGEN (mg/L)		13.5	0.4
BACTERIA (E. coli, #/100 ml)	#1		< 1
+	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

weakly stratified

Depth of thermocline (m): None Hypolimnion volume (m^3) : None Anoxic volume (m^3) : 1500

CHEMICAL:	Lake: FLAT MOUNTAIN POND (1&2) Town: WATERVILLE				
	22 February 1995		26 July 1994		
DEPTH (m)	1.0		1.0		3.0
pH (units)	6.0		6.2		5.9
A.N.C. (Alkalinity)	3.2		1.7		3.3
NITRATE NITROGEN	< 0.10		< 0.05		0.18
TOTAL KJELDAHL NITROGEN	0.30		0.30		0.30
TOTAL PHOSPHORUS	<0.001		0.023		0.021
CONDUCTIVITY (µmhos/cm)	20.8		17.0		20.5
APPARENT COLOR (cpu)	16		41		68
MAGNESIUM			0.25		
CALCIUM			1.3		
SODIUM			0.8		
POTASSIUM			0.16		
CHLORIDE	< 2		< 2		< 2
SULFATE	4	<u> </u>	3		3
TN : TP			13		23

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1994

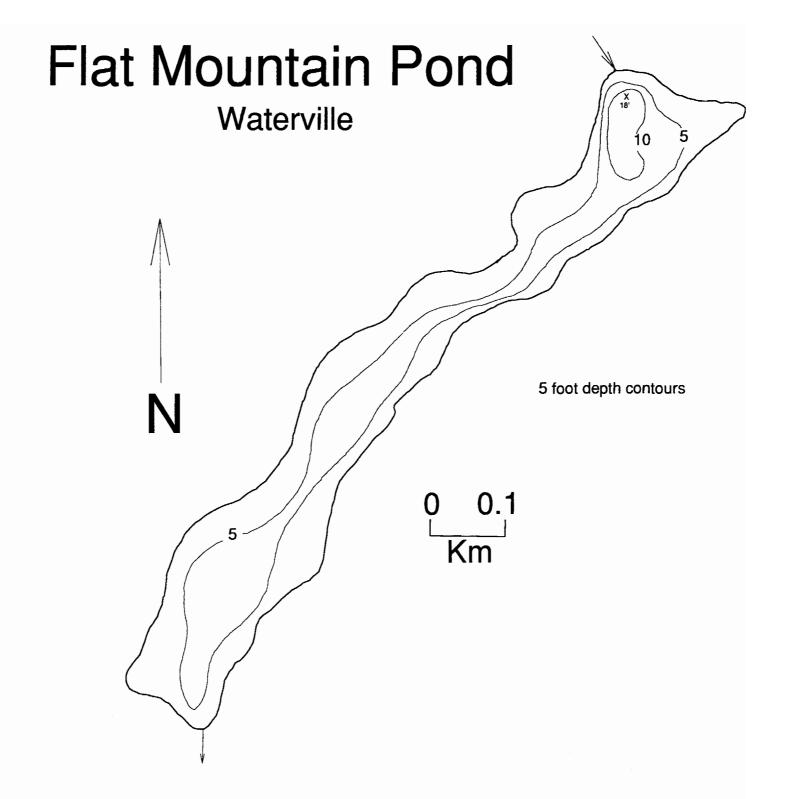
CALCITE SATURATION INDEX

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS	
**	3	3	1	7	Meso.	

4.8

COMMENTS:

- 1. This is a high elevation remote trout pond, located within the White Mountain National Forest, that was sampled jointly with the NH Fish and Game Department. This pond has been sampled annually by helicopter for acid rain trends since 1982.
- 2. At one time this was two ponds, but a beaver dam flooded the two ponds into one.
- 3. The pond was not sounded for depth readings; the bathymetric map was constructed using soundings from a USDA brochure on trout fishing in the White Mountain National Forest.



FIELD DATA SHEET

LAKE: FLAT MOUNTAIN POND (1&2)

TOWN: WATERVILLE

DATE: 07/26/94

WEATHER: CLEAR & WARM

DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	23.0	7.9	91 %
1.0	20.4	8.1	89 %
2.0	17.0	5.8	59 %
3.0	13.5	0.3	3 %
4.0	10.2	0.4	4 %

SECCHI DISK (m): 2.5

COMMENTS:

There was a 13°C temperature difference from top to bottom, but there was no thermocline or

thermal layers; there was a uniform drop in

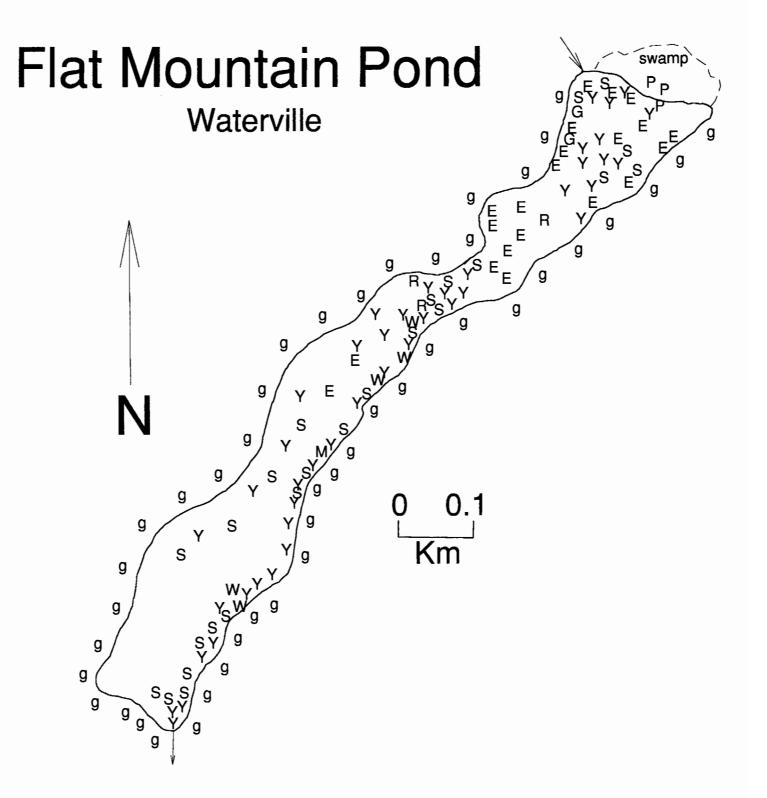
temperature with depth.

TIME: 900

BOTTOM DEPTH (m):

*Dissolved oxygen values are in mg/L

4.4



AQUATIC PLANT SURVEY

LAKE: FLAT MOUNTAIN POND (1&2) TOWN: WATERVILLE DATE: 07/26/94 PLANT NAME Key ABUNDANCE **GENERIC** COMMON Y Nuphar Yellow water lily Common S Bur reed Sparganium Common Potamogeton spp. Thin-leaved pondweed Scattered Sweet gale Common g Myrica gale Ε Eriocaulon septangulare Scattered Pipewort Water milfoil Scattered M Myriophyllum P Pontederia cordata Pickerelweed Sparse G Gramineae Grass family Sparse R Potamogeton robbinsii Robbins pondweed Sparse

OVERALL ABUNDANCE: Common

GENERAL OBSERVATIONS:

1. Sweet gale surrounded most of the shoreline; some of it was in the water but most was on land.